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## CREDIT INSTRUMENTS IN RETAIL TRADE.

THE data on which this paper is based consist of replies received from 2465 national banks to questions suggested by myself and sent out by the Comptroller of the Currency. The blanks sent out called for the amounts deposited in the banks, on the settling day nearest to the thirtieth of June, by retail grocers, butchers, clothiers, furniture dealers and fuel dealers. The banks were requested to specify the amount of each of the different kinds of money and the amount of checks and other instruments of credit in each deposit. Information was asked for also as to the usual period of credit in retail trade, the extent to which wages are paid by checks and the extent to which employees get their pay-checks cashed by merchants.

The primary purpose of the investigation was to secure some data respecting the percentage of credit instruments used in retail payments. Previous investigations into the use of credit instruments included all transactions, and it has been pretty generally agreed that the large percentage of instruments of credit shown by these investigations was mainly due to the magnitude of wholesale trade. For both practical and theoretical reasons it is desirable to have some data on the use of such instruments by the great mass of the people in their ordinary purchases.

The five classes of retail dealers selected were chosen because their businesses are the ones the purchase of whose products represents the principal parts of the expenses of living of the people at large. The Commissioner of Labor in his reports for 1890 and 1891 on the cost of production of certain commodities, gives comparative data respecting the cost of living. According to his figures, the expenditure for food, clothing, furniture and fuel is ordinarily about 67 per cent., or two-thirds of the total expenditure of each individual for all classes of incomes. It is nearer 70 per cent. of that of those with incomes below

\$800. Information concerning so large a percentage of the expenditure might fairly be considered representative of the total expenditure, especially since several of the items omitted are of such a character that they would be paid for with checks by people accustomed to that mode of payment.

Owing to a slight misunderstanding, the form of the blank sent out was not revised, and there are certain omissions which vitiate the returns. Under clothiers, for instance, it was intended to include dealers in general dry goods. It was intended, also, to secure returns from "general stores," because, as is well known, in country districts these stores do all the kinds of trade mentioned. However, in some cases returns were made covering both these omissions, and the general results cannot be much affected by them.

The amount of retail payments which the returns cover is very close to \$6,000,000. Of this amount 58 per cent. is in checks and other instruments of credit, and 42 per cent. in the various kinds of money. The returns and percentages are classified in the table on page 205.

The first matter to consider is the defects of the statistics secured. Many of the banks stated that the deposits on the day chosen were unusually light for one reason or another. The returns of the deposits of fuel dealers were undoubtedly below the average on account of the season of the year at which the investigation was made.

By an inadvertence, no separate returns of national bank notes were asked for. It is not clear to what extent these notes were returned as treasury notes. In some cases they were distinctly so included. Their omission can be allowed for if we assume that the proportion of them used under the denomination of twenty dollars was the same as that of the silver certificates used of corresponding denomination. Under this supposition it would be necessary to include between \$300,000 and \$400,000 on the money side of the returns. The percentage of checks would then become about 54.

Another point deserving consideration is the fact that the

TABLE I.<sup>1</sup>

| State    | Specie  | Currency  | Checks    | Total     | PER CENT. |               |                 | Credit<br>Period<br>Months | Deposits,<br>coin<br>(per cent.) |        |
|----------|---------|-----------|-----------|-----------|-----------|---------------|-----------------|----------------------------|----------------------------------|--------|
|          |         |           |           |           | Specie    | Cur-<br>rency | Checks,<br>etc. |                            | Gold                             | Silver |
|          |         |           |           |           |           |               |                 |                            |                                  |        |
| Ala....  | 6,867   | 11,342    | 33,686    | 51,895    | 13.2      | 21.8          | 65.0            | 1.00                       | 33.                              | 66.    |
| Ariz...  | 2,181   | 976       | 4,619     | 7,776     | 28.1      | 12.5          | 59.2            | 1.00                       | 62.                              | 38.    |
| Ark....  | 2,484   | 8,257     | 16,408    | 27,159    | 9.1       | 30.4          | 60.3            |                            | 34.                              | 66.    |
| Cal....  | 22,754  | 3,881     | 18,935    | 45,570    | 49.9      | 8.5           | 41.5            | 1.00                       | 80.                              | 20.    |
| Col....  | 14,784  | 22,923    | 90,260    | 127,967   | 11.6      | 17.9          | 70.5            | 1.21                       | 70.                              | 30.    |
| Conn..   | 2,388   | 34,926    | 46,251    | 83,565    | 02.9      | 41.7          | 55.2            |                            | 28.                              | 72.    |
| Del....  | 3,169   | 10,792    | 16,162    | 30,123    | 10.5      | 35.8          | 53.7            |                            | 12.                              | 88.    |
| Fla....  | 5,165   | 9,250     | 27,866    | 42,281    | 12.2      | 21.8          | 66.0            | 1.05                       | 11.                              | 89.    |
| Ga....   | 4,075   | 6,695     | 25,277    | 36,047    | 11.3      | 18.5          | 70.2            | 1.60                       | 17.                              | 83.    |
| Idaho..  | 7,155   | 5,654     | 15,229    | 28,038    | 25.5      | 20.2          | 54.3            | 2.43                       | 83.                              | 17.    |
| Ill..... | 27,455  | 105,080   | 163,607   | 296,142   | 9.3       | 35.5          | 55.2            | 2.07                       | 41.                              | 59.    |
| Ind....  | 16,079  | 44,925    | 51,135    | 112,739   | 14.8      | 39.9          | 45.3            | 2.63                       | 34.                              | 66.    |
| Iowa...  | 25,005  | 63,503    | 129,753   | 218,261   | 11.5      | 29.1          | 59.4            | 3.00                       | 57.                              | 43.    |
| I. T.... | 302     | 631       | 1,496     | 2,429     | 12.3      | 25.9          | 61.9            | 2.20                       |                                  |        |
| La.....  | 5,444   | 9,313     | 29,125    | 43,882    | 12.4      | 21.2          | 66.4            |                            | 2.5                              | 97.5   |
| Kan....  | 19,806  | 53,369    | 140,064   | 213,239   | 9.3       | 25.0          | 65.7            | 2.50                       | 43.                              | 56.    |
| Ky....   | 4,247   | 13,212    | 20,356    | 37,815    | 11.2      | 34.9          | 53.9            | 2.90                       | 27.                              | 73.    |
| Maine..  | 5,250   | 50,832    | 91,299    | 145,880   | 3.7       | 34.0          | 62.3            | 1.90                       | 6.                               | 94.    |
| Md....   | 11,067  | 25,335    | 50,418    | 86,820    | 12.7      | 29.2          | 58.1            | 3.00                       | 40.                              | 60.    |
| Mass...  | 19,636  | 172,917   | 188,597   | 381,150   | 5.2       | 45.3          | 49.5            | 1.10                       | 8.                               | 92.    |
| Mich...  | 13,220  | 44,016    | 69,318    | 126,554   | 10.4      | 34.7          | 54.9            | 2.00                       | 45.                              | 55.    |
| Minn...  | 21,987  | 34,211    | 42,903    | 99,101    | 22.1      | 34.7          | 43.2            | 3.00                       | 70.                              | 30.    |
| Miss...  | 2,408   | 7,042     | 60,700    | 70,150    | 3.4       | 10.1          | 86.5            | 1.00                       | 11.                              | 89.    |
| Mo....   | 29,885  | 50,018    | 122,053   | 201,956   | 14.8      | 24.7          | 60.4            | 1.90                       | 52.                              | 48.    |
| Mont...  | 7,573   | 7,516     | 39,914    | 55,003    | 13.7      | 13.6          | 72.7            | 2.00                       | 71.                              | 29.    |
| Neb....  | 18,211  | 23,280    | 74,884    | 116,375   | 15.6      | 20.           | 64.4            | 3.30                       | 69.                              | 31.    |
| Nev....  | 165     |           | 16        | 181       |           |               |                 | 6.50                       |                                  |        |
| N. C.... | 5,878   | 17,376    | 22,858    | 46,112    | 12.8      | 37.7          | 49.5            |                            | 19.                              | 81.    |
| N. Dak.  | 3,180   | 8,833     | 15,486    | 27,499    | 11.5      | 32.2          | 56.3            |                            | 72.                              | 28.    |
| N. H.... | 2,365   | 23,440    | 34,276    | 60,081    | 3.9       | 39.0          | 57.1            | 1.40                       | 16.                              | 84.    |
| N. J.... | 8,289   | 105,119   | 118,879   | 232,287   | 3.5       | 45.5          | 51.0            | 1.60                       | 43.                              | 56.    |
| N. M.... | 2,128   | 4,176     | 32,019    | 38,323    | 5.5       | 10.9          | 83.6            | 1.40                       | 58.                              | 42.    |
| N. Y.... | 27,517  | 198,487   | 355,845   | 582,003   | 4.7       | 34.1          | 61.1            | 2.90                       |                                  |        |
| Ohio...  | 24,250  | 85,487    | 90,478    | 200,215   | 12.1      | 42.7          | 45.2            | 2.58                       | 28.                              | 72.    |
| Okla...  | 2,647   | 3,765     | 9,897     | 16,309    | 16.2      | 23.0          | 60.8            | 1.00                       | 51.                              | 49.    |
| Oregon.  | 28,150  | 3,345     | 39,880    | 71,375    | 39.4      | 4.7           | 55.8            |                            | 92.                              | 8.     |
| Penna... | 91,846  | 388,433   | 549,702   | 1,030,071 | 8.9       | 37.7          | 53.3            | 46.1                       | 53.8                             |        |
| R. I.... | 1,254   | 27,759    | 41,822    | 70,835    | 1.8       | 39.2          | 59.0            | 2.50                       | 18.                              | 82.    |
| S. C.... |         |           |           |           |           |               |                 |                            |                                  |        |
| S. Dak.  | 13,143  | 11,480    | 14,805    | 39,428    | 33.3      | 29.1          | 37.6            |                            | 79.                              | 21.    |
| Tenn...  | 5,701   | 12,750    | 24,653    | 43,104    | 13.4      | 29.5          | 57.1            | 2.00                       | 20.                              | 80.    |
| Texas... | 43,572  | 57,976    | 210,750   | 312,298   | 13.9      | 18.6          | 67.5            | 3.40                       | 47.                              | 53.    |
| Utah...  | 4,450   | 919       | 6,934     | 12,303    | 36.2      | 7.5           | 56.3            | 1.00                       | 78.                              | 22.    |
| Vt.....  | 3,000   | 20,979    | 39,301    | 63,280    | 4.7       | 33.1          | 62.1            | 1.17                       | 13.                              | 87.    |
| Va.....  | 2,981   | 11,567    | 43,093    | 57,641    | 5.2       | 21.0          | 74.8            | 1.90                       | 21.                              | 79.    |
| Wash...  | 30,321  | 7,839     | 76,804    | 114,964   | 26.4      | 6.8           | 66.8            | 3.17                       | 81.                              | 19.    |
| W. Va.   | 4,632   | 7,930     | 22,307    | 34,869    | 13.3      | 22.7          | 64.0            |                            | 9.                               | 91.    |
| Wis....  | 16,261  | 49,312    | 96,701    | 162,274   | 10.0      | 30.5          | 59.5            | 2.30                       | 52.                              | 48.    |
| Wyo....  | 22,632  | 9,173     | 24,594    | 56,399    | 40.1      | 16.3          | 43.6            | 1.50                       | 88.                              | 12.    |
|          | 643,569 | 1,876,051 | 3,441,315 | 5,959,768 | 10.8      | 31.5          | 57.7            |                            |                                  |        |

<sup>1</sup> There were so many errors in addition in the blanks sent in by the banks that in spite of careful correction the sum of the first three columns is not exactly equal to that of the fourth. The percentages, however, are not seriously affected.

returns come from national banks alone. If returns had been received from state and private banks throughout the country they would have been more complete, but there is no reason to think that the percentage of checks would have been less. Indeed, it is probably true that checks and orders constitute a larger part of the deposits made by retail traders in the state and private banks of the country than they do of the deposits of similar classes in national banks. For these banks are numerous in states where national banks are few and in localities where credit seems to be largely used.

One element which would swell the percentage of credit is the large amount of store orders used in payment of wages in mining and country districts, especially throughout the South. These, of course, would not be shown in the returns made by the banks.

Still again, a considerable amount of retail trade in agricultural districts is carried on by book credit. Farmers are credited on the books of the dealers with the produce which they bring in and secure their supplies on the basis of this credit. As an illustration of the extent of this practice I may mention a single grocer's store in the city of Urbana, Illinois, in which there are seventy-three such running accounts; and there are four or five similar stores in the town. This would reduce the proportion of cash trade and make the percentage of payments in cash relatively smaller.

There is, however, one source of error in the returns owing to which the percentage of credit instruments may be too large. The deposits made by the traders on the day in question doubtless represented sales made throughout the period of credit common to their community, while the money deposits would not include all the cash sales made during that period. If this be true, it is obvious that the percentage of checks may be too high; but the excess would be offset to the extent that immediate payments were made in checks during the credit period. Error due to this cause must have been present to a greater or less extent in previous investigations. I am inclined, however, to think that in the present instance it cannot be great; if it were,

the returns from places which have long periods of credit should show a larger proportion of checks than do the returns from other places, but the figures do not show this to be regularly so. Moreover, if the people of a community were in the habit of using checks, they would be more likely to make even immediate payments with them than with money.

It is likely, then, that the accuracy of the returns is not materially affected by any of these sources of error. If anything, the percentage of credit instruments obtained is probably somewhat too low.

The next question to consider is what part of the total retail trade of the country the data secured represent. Returns from the state and private banks of the country would, as I have already remarked, be of the same general character as those from the national banks. No serious error can be made, then, by adding to the returns secured the probable data for these banks. Their individual deposits are nearly equal to those of the national banks. Hence their deposits from retail traders may be assumed to be equal to those of the latter. On this supposition the total trade represented would be twelve millions. The labor commissioner, in the report already mentioned, gives data from which I compute the average daily income of each individual at forty cents for all who receive incomes up to \$1200 a year. This would probably represent an average daily expenditure for the whole country, on this social basis, of about twenty-four million dollars. This, perhaps, is too small; but it serves to convey an idea of the representative character of the returns we are considering. We surely will not be far out of the way if we regard them as representing one-half the whole retail trade of the country for one day. Color is lent to such an estimate by the fact that there are many instances in which the percentage of checks used for payments in other kinds of retail transactions is much larger than in those for which returns were obtained. Some of the blanks contained information on this point. For example, in eight banks in the state of Pennsylvania, \$6,687 in checks were deposited by dealers of the kinds specified in the circular, and \$50,428 in checks were deposited by other

classes of retail dealers. Instances of this kind would arise largely from some peculiar characteristic of the place, such as the predominance of some particular trade. They would tend, however, to increase the proportion of checks. When we consider, moreover, that the half of the retail trade which the returns do not represent includes all which is done on book credit and on the truck system, it seems not unlikely that the percentage of checks obtained holds for probably two-thirds or three-fourths of the total retail trade.

A study of Table I. (p. 205) shows that the extent of the use of credit instruments in retail trade varies widely in different parts of the country. Mississippi heads the list, and South Dakota shows the smallest percentage. The cause, or causes, of the great variation is not clear. They may be partly due to the greater length of the period for which credit is granted; or to the fact that only a small number of the people use the banks, but that a large proportion of those who do use checks. This latter explanation probably applies to states like New Mexico, for which the total returns are small and the percentage of checks very high. From what is known of the habits of the people, a large employment of credit in the cotton-growing states would be expected, and the figures bear out the expectation. Alabama shows 65 per cent.; Georgia, 70.2, and Texas, 67.5.

If we group the states geographically according to the grouping of the census, we find that the order of the groups in the percentage of checks returned, beginning with the smallest, is: North Central, 54.3; North Atlantic, 56.4; Western, 59.7; South Atlantic, 62.3; South Central, 65.6.

It is dangerous, of course, to make any definite generalization from the results of one investigation, and that, too, so defective as the present one necessarily was. There are three matters, however, concerning which the data secured seem to furnish important information. One of these is the question of an additional supply of money; the second, the relation between the increase in the use of credit and the growth of population, and

the third, which is closely connected with the second, the relation between the increase of business and that of credit.

With regard to the first of these matters, while it is generally admitted that the larger part of wholesale business is done on credit, some have claimed that only a small portion of retail trade is so conducted, and that the supply of money should, therefore, be increased for the daily needs of the people. The present investigation shows, however, that credit plays an important rôle in retail payments; its results are, therefore, on the whole, in the line of former conclusions as to the importance of credit instruments in payments and exchanges generally, and against the necessity of any additional provisions for simply increasing the volume of money without taking into consideration the other and at least equally important element of our circulation.

The second matter on which the data under discussion seem to throw some light is the law of the growth of credit as population increases. That there is such a law, or an organic relation between the growth of population and that of credit, the writer believes; and imperfect as the statistics under discussion are, they seem to support the belief.

It has been commonly assumed that the use of checks and other credit instruments increases with the population, and that, in general, such instruments are used to a greater extent in large cities than in smaller ones or in country districts. The present returns do not altogether bear out this assumption. It would rather appear that, beginning with a given population, the percentage of credit used in business remains constant, or decreases, until population reaches a considerably higher point, and there increases suddenly; and that, in the meantime, the average percentage increases until a certain point of density of population is reached, after which the percentage continues to decrease relatively to total business.

If there is such a law as that just described, it should be shown more or less clearly by a curve representing the variation of the percentage of checks as population increases. To con-



struct such a curve perfectly, equal divisions of the lines of abscissas should represent equal increments of population on the same area; that is, the curve should show the variation in percentages of credit for population groups of regularly increasing density. This is obviously impossible. The best we can do is to group places of the same population, find the average percentage of credit for each group and construct the curve from these averages, assuming that the average areas of groups of places of different population are in the ratios of their average populations. This is not too violent an assumption. Table II. is constructed on this plan. In A, I have found the average percentage of credit instruments for all places with a population of 1000, of 2000, and so on, up to those with a population of 10,000. Above that number there was not a sufficient number of places to furnish averages at intervals of 1000. In B the same plan is carried out, showing the average for groups of places of the same population at intervals of 5000, up to places of 90,000. C gives similar data at longer intervals. The lines of the accompanying chart are plotted from these tables. Nos. 1 and 2 represent the lines of percentages of checks. The population groups from whose percentages the first is drawn are not large enough to show the general course of variation. The line in No. 2 perhaps does so; although considerably broken it shows an alternate rise and fall at intervals of approximately 15,000.

In the fifth column of the table are the percentages of increase or decrease of total business of each group as compared with the one preceding it. The sixth column shows corresponding percentages for checks. The last column gives the ratio of the figures in the sixth and fifth, and therefore shows the ratio of the per cent. of increase of checks to the per cent. of increase of total business. Line 3 of the chart is constructed from the figures of the last column. The line representing the variation of the percentage of checks follows pretty closely the line of total returns, except between places of 65,000 and 80,000, whose number is too small to yield an average. For places above 200,000 the line representing checks falls slowly away from the straight line

TABLE II.

A. PER CENT. OF CHECKS USED, BY POPULATION GROUPS OF 1000 EACH, FROM ALL RETURNS, UP TO 10,000.

| Population | Per cent. Checks | Population | Per cent. Checks |
|------------|------------------|------------|------------------|
| 1,000      | 60.1             | 6,000      | 56.6             |
| 2,000      | 61.7             | 7,000      | 54.2             |
| 3,000      | 59.5             | 8,000      | 54.4             |
| 4,000      | 53.5             | 9,000      | 56.3             |
| 5,000      | 56.8             | 10,000     | 49.6             |

B. PER CENT. OF CHECKS USED, BY POPULATION GROUPS OF 5000 EACH, FROM ALL RETURNS.

| Population    | Per cent. Checks | Figures from which per cents. were calculated |              | Per cent. of increase of totals, group to group | Per cent. of increase of checks, group to group | Ratio of per cent. increase of checks to that of totals (latter taken constant) |
|---------------|------------------|---|--------------|---|---|---|
|               |                  | Total Returns                                 | Total Checks |   |   |   |
| 1,000- 5,000  | 59.1             | 1,494,159                                     | 883,134      | —   | —   | —   |
| 5,000-10,000  | 55.5             | 839,950                                       | 466,229      | —56.2   | —52.8   | 0.940   |
| 10,000-15,000 | 59.0             | 732,433                                       | 433,145      | —87.2   | —92.9   | 1.060   |
| 15,000-20,000 | 60.6             | 265,598                                       | 160,902      | —36.2   | —37.1   | 1.024   |
| 20,000-25,000 | 62.2             | 364,481                                       | 226,687      | 137.2   | 140.9   | 1.027   |
| 25,000-30,000 | 52.5             | 117,290                                       | 61,573       | —32.1   | —27.1   | 0.840   |
| 30,000-35,000 | 52.0             | 71,746  | 37,254       | —61.1   | —60.4   | 0.990   |
| 35,000-40,000 | 47.1             | 104,870                                       | 49,483       | 146.2   | 132.7   | 0.910   |
| 40,000-45,000 | 54.7             | 156,249                                       | 85,460       | 148.9   | 173.1   | 1.160   |
| 45,000-50,000 | 49.1             | 61,824  | 30,358       | —39.6   | —35.5   | 0.890   |
| 50,000-55,000 | 62.6             | 78,971  | 49,454       | 127.9   | 162.9   | 1.270   |
| 55,000-60,000 | 54.8             | 105,611                                       | 57,866       | 133.7   | 117.0   | 0.870   |
| 60,000-65,000 | 48.5             | 36,981  | 17,937       | —35.0   | —30.9   | 0.880   |
| 65,000-70,000 | —                | —   | —            | —   | —   | —   |
| 70,000-75,000 | 32.3             | 29,116  | 9,396        | —   | —   | —   |
| 75,000-80,000 | 61.9             | 86,535  | 53,542       | 297.2   | 569.7   | 1.920   |
| 80,000-85,000 | 46.1             | 46,521  | 21,453       | —53.8   | —40.1   | 0.740   |
| 85,000-90,000 | 62.2             | 22,334  | 13,870       | —48.0   | —64.5   | 1.340   |

C. THE SAME DATA FOR CITIES GROUPED AT LARGER INTERVALS.

|                            |      |         |         |       |       |      |
|----------------------------|------|---------|---------|-------|-------|------|
| 1,000- 10,000 <sup>1</sup> | 55.6 | 817,574 | 454,481 | —69.8 | —83.2 | 1.19 |
| 10,000- 25,000             | 66.1 | 571,136 | 378,242 | —48.1 | —53.1 | 1.10 |
| 25,000- 50,000             | 53.6 | 374,797 | 200,866 | 103.1 | 104.8 | 1.01 |
| 50,000-100,000             | 53.8 | 388,727 | 209,113 | —96.2 | 126.5 | 1.31 |
| 100,000-200,000            | 70.9 | 374,209 | 265,510 | 179.2 | 164.3 | 0.92 |
| 200,000-500,000            | 65.3 | 670,705 | 436,248 | —53.2 | —45.9 | 0.86 |
| 500,000—                   | 55.9 | 357,943 | 200,143 | —     | —     | —    |

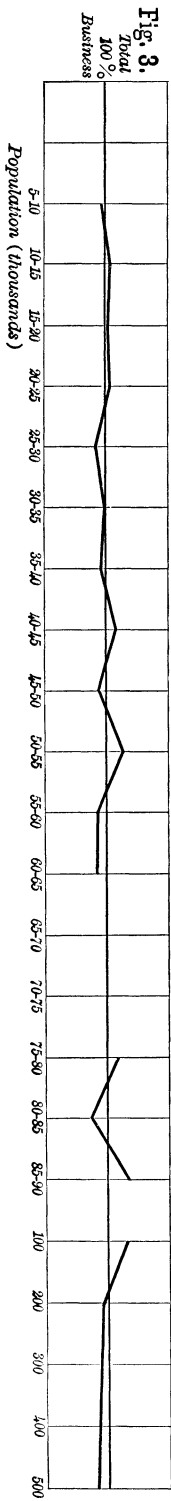
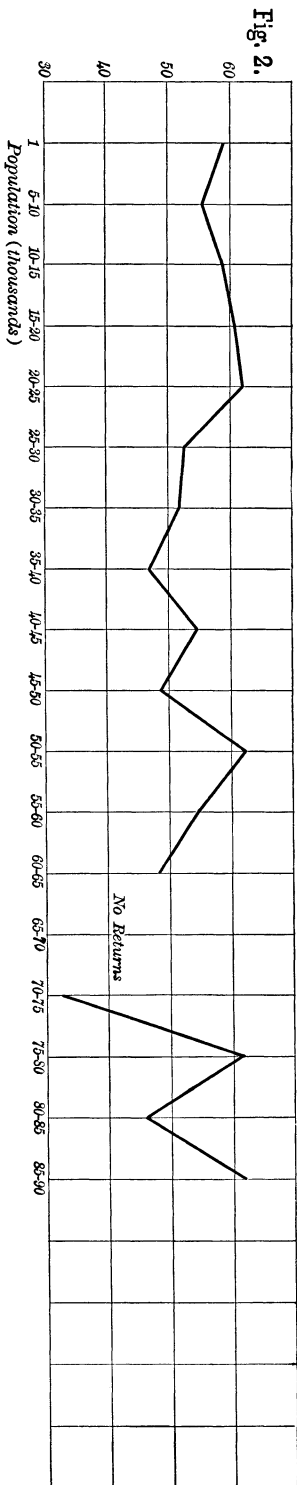
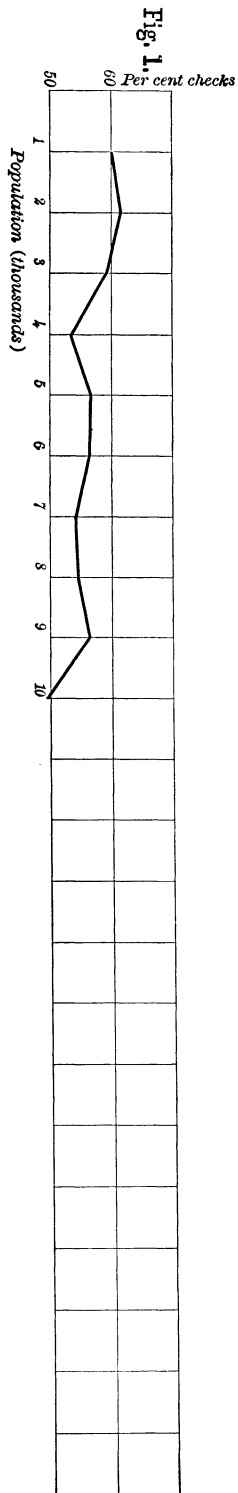
<sup>1</sup> 309 places.

representing the total returns. This would seem to show that after a certain point of development in the use of credit instruments there is no further relative increase, but rather, possibly, a slight decrease.

The indications, given by the data just discussed, of a law of the growth of credit are, of course, exceedingly remote; so much so, indeed, that if we consider them by themselves we cannot be sure that they mean anything. There are certain *a priori* considerations, however, which strengthen them. These are considerations as follows:

For a given population there is a given amount of division of trade which cannot increase much for small additions to the population. But after population has increased so as to furnish a sufficiently large market, a readjustment will take place and division of trade will be greater than before. The new amount of the division of trade will remain approximately constant until the growth of population again furnishes a sufficient market to justify another adjustment; and so on. Now, the amount of business done on credit in a community depends partly on the extent to which the division of trade has been carried. For the amount of credit which stores can grant depends in part on their capital, and several special stores will have a larger aggregate capital than one "general store;" and the amount which they will grant to each family in the community will not increase in proportion as the family enlarges. Hence as population grows credit grows also, but at a less rapid rate. Therefore the percentage of credit used, to total business, will show a relative decrease until the point is reached where the expansion of population causes a readjustment of the division of labor, or a greater differentiation of retail business. Then there will be a sudden increase.

Another reason for the temporary relative decrease in the percentage of checks used, while population expands between two given points, is the fact that the increase of population in a place usually consists more largely of those whose incomes are small. These are the people who are less likely to use checks.



Still again, as population increases and the division of labor proceeds, the number of small purchases becomes relatively greater, and so the proportion of cash used in payments becomes larger. Moreover, single payments being on the average smaller, as the population becomes more dense it is *easier* to pass *money* in payments up to a certain point than to bother with writing checks and to undergo the trouble of getting them cashed. *The line of least resistance in the mode of payment changes.* Therefore, after a certain density of population, with its corresponding complexity of business, has been reached the rate of increase in the percentage of credit will continue to decrease, or at least will remain constant. This conclusion is in line with the indications furnished by our statistics.

An interesting question is the effect of the industrial and social character of a community on the extent to which it uses credit in retail payments. The data on this point are exceedingly unsatisfactory, because too many factors enter into the problem. It is probable that the absolute percentage varies with the industrial and social character of the place, wherever legislation does not interfere, but that the relation of the amount of credit used to the total business is as described above; that is, the *development* of the use of checks in retail trade as population grows is probably independent of industrial character, although the *absolute* percentage largely depends on it.

If from all these considerations we might venture to formulate a law of the growth of credit, it might be put somewhat as follows:

(1) The percentage of business done on credit does not increase steadily as population and amount of business increase, but rather progresses by leaps.

(2) After a certain density of population, or a certain complexity of business, is attained the *rate* of increase in the amount of credit used in business will *decrease*.

(3) When a community has reached the credit stage of economic evolution the relation between the growth of credit and that of population as thus formulated will be the same whatever its general industrial character.

As has been already said, information was sought concerning the period of credit throughout the country in retail trade, but the returns do not throw any new light on the matter. In Table I. the averages are given for the different states. The period varies from a few days to six or nine months, and in some cases a year, the longer period being in the agricultural districts. In the twenty-three largest cities of the country the average period varies from one and one-tenth to one and four-tenths months, but there is no uniformity among retail tradesmen even in the same locality.

The customary mode of payment of wages, so far as reported, is shown in the following table:

TABLE III.

| STATE               | No. of places reporting cash | No. of places reporting checks | No. of places reporting both | STATE             | No. of places reporting cash | No. of places reporting checks | No. of places reporting both |
|---------------------|------------------------------|--------------------------------|------------------------------|-------------------|------------------------------|--------------------------------|------------------------------|
| Alabama.....        | 9                            | 1                              | 4                            | New Hampshire ..  | ..                           | ..                             | ..                           |
| Arizona.....        | 0                            | 3                              | 1                            | New Jersey.....   | 19                           | 4                              | 14                           |
| California.....     | 13                           | 5                              | 3                            | New Mexico.....   | 1                            | 6                              | 1                            |
| Colorado.....       | 0                            | 17                             | 3                            | New York.....     | 84                           | 12                             | 44                           |
| Connecticut .....   | 26                           | 1                              | 0                            | North Carolina... | 7                            | 1                              | 2                            |
| Delaware .....      | 7                            | 1                              | 2                            | North Dakota....  | 5                            | 10                             | 2                            |
| Florida.....        | ..                           | ..                             | ..                           | Ohio.....         | 60                           | 10                             | 24                           |
| Georgia.....        | 9                            | 1                              | 3                            | Oklahoma.....     | ..                           | ..                             | ..                           |
| Idaho.....          | ..                           | ..                             | ..                           | Oregon.....       | 6                            | 7                              | 7                            |
| Illinois.....       | 44                           | 28                             | 19                           | Pennsylvania....  | 71                           | 12                             | 47                           |
| Indiana.....        | 33                           | 9                              | 11                           | Rhode Island....  | 8                            | 1                              | 0                            |
| Indian Territory... | ..                           | ..                             | ..                           | South Carolina... | ..                           | ..                             | ..                           |
| Iowa.....           | 35                           | 31                             | 18                           | South Dakota....  | 5                            | 8                              | 5                            |
| Kansas.....         | 20                           | 38                             | 12                           | Tennessee.....    | 13                           | 4                              | 7                            |
| Kentucky.....       | 13                           | 7                              | 3                            | Texas.....        | 37                           | 24                             | 29                           |
| Louisiana.....      | 6                            | 0                              | 0                            | Utah.....         | 1                            | 2                              | 1                            |
| Maine.....          | 26                           | 3                              | 10                           | Vermont.....      | 16                           | 0                              | 7                            |
| Maryland.....       | 18                           | 0                              | 4                            | Virginia.....     | 10                           | 4                              | 4                            |
| Massachusetts.....  | 87                           | 4                              | 4                            | Washington.....   | 7                            | 15                             | 4                            |
| Michigan.....       | 11                           | 18                             | 17                           | West Virginia...  | 4                            | 3                              | 3                            |
| Minnesota.....      | 9                            | 13                             | 15                           | Wisconsin.....    | 12                           | 14                             | 13                           |
| Mississippi.....    | 7                            | 1                              | 0                            | Wyoming.....      | 0                            | 4                              | 0                            |
| Missouri.....       | 8                            | 16                             | 5                            |                   |                              |                                |                              |
| Montana.....        | 1                            | 7                              | 1                            | Totals.....       | 753                          | 383                            | 355                          |
| Nebraska.....       | 6                            | 38                             | 7                            |                   |                              |                                |                              |

As to the method of payment of wages, the custom varies widely in different states. So far as the results show, wages are paid more largely by checks in those states whose population

may be roughly described as of medium density. The opposite is true of the most thickly settled states. The blanks returned, so far as answers were made to the question at all, give 753 as the number of places in which wages are paid entirely in cash ; 383 in which it is the custom to pay by check ; and 355 in which both modes of payment are used.

An attempt was made to get some data concerning the distribution of the different kinds of money used in retail trade in different parts of the country. This is a matter of great interest and importance concerning which full information is very desirable. The data secured from our investigation, however, are not very satisfactory. So far as they go they show that gold is more largely used, for example, in California, Colorado, South Dakota, Oregon, Minnesota, Missouri, Nebraska, Washington and Wyoming than in the other states. Silver and silver certificates predominate in Alabama, Arkansas, North Carolina, Connecticut, Delaware, Florida, Georgia, Kentucky, Maryland, Ohio and Texas. Of the metallic money gold is the larger part in Arizona, Colorado, California, Idaho, Minnesota, Montana, Nebraska, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming. Complete data are given in Table I.

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